Section 3 1998/99 Capital Budget

INTRODUCTION

The 1998/99 Capital Budget represents our ongoing efforts to restore, maintain and improve campus facilities for teaching, research, and related activities. The Stanford campus is a unique resource which helps shape and define much of University life. Our principal goals in capital planning are to protect and extend the useful life of existing facilities, create appropriate new facilities where necessary to support the work of the faculty, students, and staff, and integrate facilities and support systems into a coherent, effective, and attractive campus.

Several major capital programs will be completed in the coming year marking the successful conclusion of a major effort begun more than five years ago. The Science and Engineering Quadrangle will be completed, as will the Museum (now known as the Cantor Arts Center at Stanford) and the seismic renovation of Green Library West. The Center for Clinical Sciences Research will be virtually complete by the end of the fiscal year. These are the primary projects which have contributed to unprecedented levels of construction on campus during the past several years. These projects, and several others specified in the table below that have been approved for construction, total \$319.0 million, with \$96.2 million to be expended in 1998/99.

Even as these programs come to closure, new needs emerge. The effects of aging buildings, restrictive codes, and growth in program have been the impetus to assessing comprehensively the needs for facilities upgrades in the Humanities and Sciences, Engineering, and Medical Schools. In addition, projects are being formulated to meet on-going student housing needs.

Generous donations have given rise to two new opportunities. The first is a new aquatics facility that will supplement the overcrowded aquatic facilities for the Department of Athletics. The second is a new Alumni Center that will be the "home away from home" for current and future generations of Stanford alumni. These projects, plus a host of smaller renovations for programmatic change and growth, constitute \$72.2 million anticipated to be spent in 1998/99.

In addition to specific building projects, the Capital Plan includes on-going programs of maintenance, renewal, and expansion of the campus infrastructure. These programs include annual investments in utilities systems, student housing, transportation and parking facilities, and the campus landscape. The capital plan also includes investments in technology infrastructure as well as major administrative computing applications. A total of \$49.4 million will be expended in 1998/99 toward infrastructure development.

FINANCING

The one-year 1998/99 Capital Budget totals \$217.8 million. Its impact on the Consolidated Budget for Operations appears in two places: \$5.1 million in incremental debt service for those projects completed by September 1, 1998 whose debt service for the full year was not incorporated into the FY98 budget; debt service for those projected coming on-line by September 1, 1999, and \$3.0 million in incremental operations, maintenance, and utilities costs for facilities coming on-line.

1998/99 Capital Budget Projected Expenditures

(in millions)

		Total	Percent	Projected
	Project	Project	Complete	1998/99
	Schedule	Cost	9/1/98	Expenditures
Projects in Design and Construction				
Center for Clinical Science Research	1996-00	\$88.7	58%	\$31.2
Cowell Cluster	1998-99	8.9	61%	3.5
Encina Hall East Wing	1996-99	14.4	99%	0.4
Encina South and Central Wings	1997-99	10.0	99%	0.5
Green Library Connectivity	1999	1.5	7%	1.4
Green Library West Seismic	1994-99	48.6	76%	11.7
GSB Link Addition	1997-00	10.9	48%	5.7
Hanna House	1996-99	2.3	78%	0.5
Lagunita	1998-99	18.5	90%	2.0
Margaret Jacks Hall	1997-99	4.4	90%	0.4
SEQ Connective Elements	1996-99	10.4	76%	2.5
SEQ Electrical Engineering	1996-99	29.3	78%	6.5
SEQ McCullough Annex	1996-99	22.1	75%	5.5
SEQ McCullough Renovation	1996-99	19.5	74%	5.0
Serra Mall Development	1996-00	5.4	57%	1.5
SUMC Entry Redevelopment	1997-01	6.6	9%	0.4
Construction Financing ¹	1999	6.5		6.5
Portfolio Contingency		11.0		11.0
Subtotal-Approved Projects		319.0		96.2
Infrastructure Programs	1999-03	185.5		49.4
(See Table on Facing Page)				
Projects in Concept and Formulation	1999-03	301.3		72.2
(See Table on Page 40)				
Total Capital Budget		\$805.8		\$217.8

1 Represents construction financing on approved projects funded by debt.

		Total	Projected
	Project Schedule	Project Cost	1998/99 Expenditures
Infrastructure Programs			
Capital Utilities Program			
Wear-Out	1999-03	\$20.4	\$2.7
Controls	1999-03	3.7	0.9
System Expansion	1999-03	7.3	3.0
Regulatory	1999-03	9.1	6.4
Subtotal		40.5	12.9
Capital Improvements Plan			
Year 6 (H&DS)	1999	10.9	10.9
Year 7 (H&DS)	2000	11.5	
Year 8 (H&DS)	2001	12.0	
Year 9 (H&DS)	2002	8.8	
Year 10 (H&DS)	2003	9.2	
Subtotal		52.4	10.9
Systems			
Applications	1999	8.2	8.2
Infrastructure	1998-99	2.0	2.0
Communications Facilities	1999-03	8.1	2.0
Subtotal		18.3	12.1
University Deferred Maintenance	1995-99	40.0	5.0
Stanford Infrastructure Program			
Campus Landscaping and Planning Projects	1999-03	16.2	4.1
Transportation Parking and Programs	1999-03	18.1	4.3
Subtotal		34.3	8.4
Total Infrastructure Programs		\$185.5	\$49.4

1998/99 Capital Budget Projected Expenditures/Infrastructure Programs Detail (in millions)

		Total	Projected
	Project	Project	1998/99
	Schedule	Cost	Expenditures
Projects in Concept and Formulation ¹			
Alumni Center	1999-01	\$30.0	\$5.0
Always-2-Fleischman Labs Renewal	1998-00	3.5	2.8
Always/Grant-2 Pathology Lab Renewal	1999-00	3.5	2.8
Aquatics Center	1999-00	12.0	9.0
Boathouse	1999	5.0	5.0
Building 360 Main Quad/Westgate Seismic	1999-00	4.5	2.0
Cobb/Maloney Bleachers	1998-99	3.0	1.5
Compliance Reserves	1999-03	13.5	2.7
Edwards Seismic	1998-00	3.5	2.8
Edwards-3 Surgery Offices Renewal	1999-00	6.8	0.1
Encina Central	1999-00	5.0	3.0
Graduate Student Housing	1999-01	15.0	2.5
Grant-0 Rad Office Renovation	1998-99	3.5	3.1
Lane-0/1 Library Expansion and Renewal	1999-01	15.0	0.8
Lane-3 Surgery Labs Renewal	1999-00	5.8	0.5
Library Technical Services	1999-00	9.0	3.0
Science & Engineering Project I	1999-01	45.0	5.0
Science & Engineering Project II	1999-01	32.0	5.0
Small Projects ²	1999-03	120.0	24.0
Less: Stanford Infrastructure Program Surcharge	9 ³	(34.3)	(8.4)
Total Projects in Concept and Formulation		\$301.3	\$72.2

1998/99 Capital Budget Projected Expenditures/Projects in Concept and Formulation Detail (in millions)

1 These projects are in various stages of formulation. Scope, schedule and estimates may be revised. These projects are all subject to funding approval.

2 Represents projects less than \$3 million, many of which are lab renovations.

3 Represents 9% surcharge on capital projects. See Infrastructure Programs for project expenditures.

The table of the facing page details all projects and programs discussed above, along with their total project costs, project schedule, percent complete, and projected 1998/99 expenditures.

The table to the right details the sources of funds for these projects and programs and the amount of debt financing (\$45.4 million) needed to fund the balance. Construction financing is used to cover the debt portion until the project is complete. At that point, permanent long-term debt financing is put in place. More detail on sources of funds by project is included in Appendix B.

The table below shows an analysis of debt service for capital projects for 1997/98 and 1998/99. We are anticipating an increment of \$5.1 million in debt service for 1998/99 over the 1997/98 projected level. This increment supports three sets of projects. The first are those projects completed in 1997/98, where the debt service was budgeted for only part of that year. The second set consists of those projects expected to come on-line in 1998/99. And the third set contains infrastructure projects planned for 1998/99. The total projected debt service for capital projects completed by September 1, 1999, (\$18.3 million) is included in the University's Projected Consolidated Budget for Operations, 1998/99.

1998/99 Capital Budget Funding Summary (in millions)

Uses of Funds	
Projects in Design and Construction	\$96.2
Infrastructure Programs	49.4
Projects in Concept and Formulation	72.2
Total	217.8
Sources of Funds	
Gifts	78.2
Current Funds and Reserves	57.8
Government	7.1
Debt	
Auxiliaries/Service Centers	23.9
University	50.8
Total	\$217.8

We are often asked how much we are investing in the Plant relative to how much would be required on a replacement cost basis. Depreciation charges in our financial statements are based on the historical cost of the asset and use the average life of a broad class of assets. We have developed a proxy for the annual replacement charge based on the market value of the assets and an accelerated depreciation schedule to reflect the useful life of each type of facility. In 1998/99, the estimated annual replacement cost is \$199.2 million compared to an annual

Debt Service for Projects Completed by September 1, 1999¹ (in millions)

Projects	1997/98	Addition	1998/99	
Non-Formula Schools				
Projects Completed by September 1, 1998	\$8.0	\$2.0	\$10.0	
Projects Completed by September 1, 1999		2.4	2.4	
Capitalized Deferred Maintenance		0.6	0.6	
Total Non-Formula Schools	8.0	5.0	13.0	
Formula Schools	5.2	0.1	5.3	
Total Debt Service	\$13.2	\$5.1	\$18.3	

1 Excluding service centers.



investment in plant of \$243.3 million. This investment in plant includes the work funded through the Capital Budget, as well as the ongoing and planned maintenance costs in the Consolidated Budget for Operations.

PROJECTS IN DESIGN AND CONSTRUCTION

Many of this year's projects are culminating a multi-year effort. Following are descriptions of these. Please refer to the map on the previous page for their site locations.

CENTER FOR CLINICAL SCIENCES RESEARCH

The proposed Center for Clinical Sciences Research (CCSR) will provide critically needed academic space for the School of Medicine's teaching and research programs in Cancer, Immunology, Human Gene Therapy, Human Anatomy and other related programs.

The CCSR is planned to encompass 129,100 net assignable square feet within a building envelope of 214,000 gross square feet. The CCSR is budgeted at a total project cost of \$88.7 million, the largest single building project in Stanford history. The project is funded from a combination of gifts (\$77.1 million) schools reserves (\$6.6 million) and University funds (\$5.0 million). Construction began in the summer of 1997 and is scheduled for completion in September of 1999.

Encina Hall-East Wing and South/Central Wings

The east wing of Encina Hall, built in 1891 as the first men's dormitory, has been closed since suffering damage in a fire in 1972. The east wing is now being restored as a home for several research centers within the Institute for International Studies (IIS), which currently occupies part of the central wing of Encina. The south and central sections will also be repaired. The restoration of Encina Hall will cost \$24.4 million and will be funded by a combination of gifts to IIS and debt. Construction is anticipated to be completed by September of 1998.

LITTLEFIELD ADDITION

This building is an addition to the Littlefield Center, which will provide approximately 14,250 gross square feet of office and conference space plus an unfinished basement space to be used for future program needs. The space will house all of the Dean's Office, critical academic support services, faculty, and emeriti. Ground breaking took place in April of 1998, and construction is estimated to be complete by February 2000. The project cost is \$10.9 million and is supported totally by gifts.

GREEN LIBRARY WEST SEISMIC RECONSTRUCTION

The West Wing of Green Library has been closed since the 1989 Loma Prieta earthquake. Reconstruction began in 1996 and is scheduled for completion in October of 1998. The restored building will house the Library's Special Collections, extensive reader services such as the Humanities Resource Center, and stacks. The total project cost will be \$48.6 million, supported by a combination of gifts (\$26.2 million), funds from the Federal Emergency Management Agency (FEMA) (\$15.8 million), University reserves (\$5.3 million), and University debt (\$1.3 million).

HANNA HOUSE SEISMIC REPAIR AND STRENGTHENING

The Hanna House was designed by Frank Lloyd Wright with Paul and Jean Hanna in 1935. The entire complex was bequeathed to Stanford University by the Hannas in 1974, with the intent that the buildings be preserved as a living example of the philosophy and the design principles of Frank Lloyd Wright. The Hanna House served as the residence for the University Provost until the Loma Prieta earthquake, when it suffered damage. The proposed project is intended to repair the damage and improve the seismic performance of the structure. The total project cost will be \$2.3 million, supported by a combination of gifts (\$1.4 million), funds from the Federal Emergency Management Agency (FEMA) (\$0.4 million), and University reserves (\$0.5 million). Construction began in May of 1998.

MARGARET JACKS HALL RENOVATION

Margaret Jacks Hall (Building 460) is a fourstory building with full basement and is located on the front portion of the outer Main Quad. It was built in 1900 from a design by Charles Coolidge, modified by Clinton Day. Major renovations to the building were completed in 1978. The building has been seismically upgraded. This tenant renovation will provide a single location for the English and the Linguistics departments, two of the larger departments within the School of Humanities and Sciences.

This project is scheduled to be complete in September of 1998. The total project cost will be approximately \$4.4 million, supported by a combination of University funds (\$3.1 million) and deferred maintenance reserves (\$1.3 million).

SCIENCE AND ENGINEERING QUAD

The Science and Engineering Quad (SEQ) projects are funded in part by a generous gift of \$76.8 million from William Hewlett and David Packard. The Regional Teaching Facility, which will replace Bloch Hall as the center for undergraduate instruction in the sciences and engineering, and Sequoia Hall, housing the Statistics department, both opened in Spring of 1998.

The new 122,400 gross square foot home of the Electrical Engineering Department is comprised of computer-based research labs. These labs will be comprised of Information Systems Lab (ISL), Computer Systems Lab (CSL), Integrated Circuits Lab (ICL), Solid State Lab (SSL), Space, Telecommunications, and Radioscience (STAR), and Ginzton Lab.

The McCullough Annex will be a 57,000 gross square foot laboratory building housing most of the wet laboratories that currently reside in the existing McCullough Building. The Annex will be dedicated to research in the synthesis, understanding, and applications of advanced materials, and to the education of graduate students from various science and engineering disciplines engaged in advanced materials research. The McCullough building is being converted to an office and dry lab building which will connect to the new Annex. Significant modifications to the mechanical, plumbing, process piping, and electrical systems are required, because the building systems are at the end of their useful life. The fire alarm protection, lighting, and communications systems will be brought up to code and University standards. In addition, the building will be brought up to Americans with Disabilities Act (ADA) standards for rest rooms and public areas. This renovation will encompass the entire 78,380 gross square feet of the building.

The total project costs of the Electrical Engineering building will be \$29.3 million, the McCullough Annex will be \$22.1 million, and the McCullough Renovation will be \$19.5 million. All of these projects are scheduled for completion in December of 1998.

INFRASTRUCTURE PROGRAMS

Stanford's ongoing effort to renew its infrastructure is managed through the programs described below.

CAPITAL UTILITY PROGRAM

The Capital Utility Program (CUP) contains projects that will improve and enhance electrical, chilled water, steam, water, and sewage systems. Projects meet one of four criteria: system wear out, regulatory issues and code compliance, system expansion, and system controls. The budget for the CUP program in 1998/99 is \$12.9 million. The largest portion of this, approximately \$6.4 million, will be used for regulator upgrades. Another \$3.0 million will be used to expand the system to accommodate growth in the campus and increased demand for utilities.

CAPITAL IMPROVEMENTS PLAN IN HOUSING AND DINING SERVICES

In 1998/99, year seven of the fifteen-year Capital Improvements Plan (CIP), renovations will occur in a number of Row Houses (Enchanted Broccoli Forest, 353 Campus Drive, Kappa Alpha, and Lambda Nu). Additionally, as in previous CIP years, 170 Escondido Village apartments are planned for renovation. These projects are anticipated to total \$10.9 million. The projects in any given year are selected to benefit both undergraduate and graduate students, as well as to consider all types of housing and meet the financial exigencies of the overall renovation program on the H&DS budget.

The CIP renovation plan is intended to reduce the differences in quality between older residences and those built in the past eight to ten years. This is accomplished by replacing finishes and furnishing, attending to critical code compliance and deferred maintenance issues, providing aesthetic and landscape improvements where possible and providing functional improvements such as in-room access to SUNet and dining services upgrades as applicable.

Systems

As new buildings and major renovations come on-line, new utilities are needed to service those buildings. In addition to traditional utilities such as electricity and chilled water, an increasingly important utility is the Communications Facilities which bring all voice, data, and video communications to the building. This portion of the capital budget includes \$2.0 million to cover the costs for both conduit and interbuilding cabling for all communications, both within and outside of Stanford. The budget for systems infrastructure programs also includes \$10.2 million for information systems application and infrastructure development.

DEFERRED MAINTENANCE

In 1994, a study of Stanford's deferred maintenance backlog was conducted by outside consultants. They identified about \$100 million in maintenance needs across most of the University, of which approximately \$40 million was related to critical needs on the central campus. The backlog consisted of three categories of projects: those which will enhance safety and prevent property loss, those which respond to code requirements, and those which would correct advanced deterioration. In addition, the consultants recommended expansion of the University's planned maintenance program to address life cycle maintenance and anticipated deficiencies. The critical \$40 million in projects will be completed by the end of 1998/99.

STANFORD INFRASTRUCTURE PROGRAM

The Stanford Infrastructure Program (SIP) consists of projects and programs proposed and developed for the improvement and general support of the University's academic community and its physical plan. The infrastructure system is in direct support of the academic missions of teaching and research and the overall vitality of the institution. SIP is supported by a 9% charge on most building projects which is subdivided into 5% for the SIP-Campus Program and 4% for SIP-Transportation programs.

SIP-Campus proposes to spend up to \$4.1 million in fiscal year 1998/99, which will be spent on improvements to roads, paths, storm drains, outdoor art, outdoor landscaping and signs, as well as the advance planning efforts that support each of these.

SIP-Transportation proposes to spend up to \$4.3 million during the same period for the implementation of a revised transportation plan which provides for the construction of additional parking, including planning for at least one parking structure, and enhancements to support bicycle use.

PROJECTS IN CONCEPT AND FORMULATION

The capital planning process complements academic and institutional planning. The overriding goal of all capital planning is to provide facilities which will enable Stanford faculty, students and staff to excel in their work. Proposals for new capital projects come into the planning process in a variety of ways. Many are developed as part of ongoing maintenance and enhancement programs. Other projects arise because of issues relating to new building codes or changes of use. Still other projects develop out of new programmatic initiatives of the faculty and, occasionally, the interest of donors.

In whatever way a project begins, it enters a formulation process which is meant to identify the most appropriate solution to the problem or issue at hand. This may involve a comparison of the cost of renovation versus new construction or may involve reprogramming existing space to accommodate new needs. The formulation process results in a review of all feasible options and a description of realistic alternatives. From this process a decision is made to continue a project, reassess the programmatic needs which underlie it, or to defer or terminate it.

The annual budget is derived in a context of a multi-year plan. Our goal in developing the multi-year plan is to track projects that would clearly enhance teaching, research and University life, realizing that not all such projects will be possible during this period. Each project must be justified on its own terms and in relationship to competing demands for resources.

CAPITAL NEEDS

Stanford is completing an important period during which several major capital programs are coming to completion. Among the issues that will dominate capital needs and capital planning in the forthcoming years are:

COMPLIANCE ISSUES – Building codes pertaining to the storage and use of hazardous material have become increasingly restrictive. While we believe that many of these code requirements are neither necessary nor appropriate for research and teaching facilities (as opposed to manufacturing facilities), we are nonetheless required to meet many of them. In addition, the requirements of the Americans with Disabilities Act (ADA) have made renovations necessary in many facilities in order to improve access.

HOUSING – The high cost of housing in the Bay Area has created substantial problems for the University in its recruitment of graduate students, post-doctoral students, medical residents, and faculty members. Within the capital budget, we have anticipated the need for student housing. Planning has begun to assess the best sites and configurations for such new housing.

New AND IMPROVED ACADEMIC SPACE – As academic programs change and evolve, so often must the spaces in which they are housed. Stanford's academic excellence stems in part from the ease with which research and teaching programs can originate and flourish, particularly across department and school boundaries. Such collaborations are often made richer by new and specialized facilities. While not all new needs can be accommodated, it is imperative that campus facilities be made to respond to new faculty initiatives.

Projects in the 1998/99 Capital Budget, listed under Concept and Formulation, represent these needs and projects made possible by gift funding. To address compliance issues, Science & Engineering projects are being developed to create facilities where Chemistry and Mechanical Engineering departments can conduct research in the class H facilities they require. In an effort to improve existing facilities, projects include lab renewals at the School of Medicine and one of the last seismic renovations in the Main Quad. New facilities such as the Alumni Center and Aquatics Center, made possible through generous donations, contribute to enriching the physical resources of the University community.

CONSTRAINTS

As we look ahead, several constraining factors will play an increasingly important role in determining the feasibility of capital projects.

Among these are:

ENTITLEMENTS – A General Use Permit (GUP) granted by Santa Clara County governs the extent to which Stanford is entitled to new development on campus land. The GUP establishes limits on the growth of the campus (as measured by square feet) and on population (faculty, staff, students, visitors, contractors, patients, etc.) Within the next five years, a new or extended GUP will be necessary to allow for additional facilities. Preliminary work is underway which will lead to the application for a new GUP within the next year.

DEBT POLICY – In December 1997, the Board of Trustees approved a new debt policy that set limits on the University's overall debt level. The debt policy limits the debt to the lesser of: 1) an overall debt level that is 20% of the Unrestricted and Temporarily Restricted Net Assets or 2) interest payments that are less than 5% of Total Revenue. In addition to the overall debt limits, the debt policy imposes an internal constraint, for management purposes, on the level of internal debt service repayments on capital projects (exclusive of SLAC, auxiliaries, and service centers) to 5.0% of unrestricted funds (i.e., general funds plus designated funds). In 1998/99, these internal repayments for debt service will be \$19.8 million including payment on commercial paper, or 3.4% of unrestricted funds. The impact of this policy is that the University has roughly \$115 million in remaining debt capacity for projects supported by central funds.

BUDGET CONSTRAINTS – The debt service on projects financed by debt and the operations and maintenance costs on capital projects are expenditures paid for by the general funds of the University. Capital-related costs compete directly for this limited resource against academic program initiatives. An assessment of the financial impact of all capital projects is performed to ensure the affordability of the project in relation to the operating budget of the University.

The challenge of the coming years will be to balance the need for new and more functional facilities with the need to constrain growth and preserve financial flexibility. Accomplishing these, sometimes contradictory goals, will require good planning and creativity.

SECTION 4 CHALLENGES BEYOND 1998/99

With this last budget of the decade, Stanford is on very sound footing.

- Our endowment has grown from \$1.6 to \$4.5 billion over the decade. It is important to note, however, that our endowment support per student is low when compared to our principal competition. We continue to rely more heavily on sources of income that must be raised each year in order to support our operating needs.
- Our academic and research programs are generally extremely strong and continue to improve.
- A large fraction of our facilities has been re-built since the 1989 earthquake, so that we will enter the new decade with virtually a renovated campus, minimal deferred maintenance, and critical new science and engineering facilities.
- Our administrative structures and processes have been trimmed.
- We have instituted budgeting processes that call for adequate reserving against income

shortfalls on the part of both the central administration and the schools.

Yet, challenges remain. Stanford's commitment to excellence at the frontiers of research and teaching is expensive. From the costs of state of the art laboratory equipment and buildings to the demand for small group instruction across the curriculum to the very "hot" market for the very best faculty, the financial pressures on the University are immense. The soaring costs of the information age, an unending appetite for regulation at all levels of government, and our enviable, but expensive, geographic location are also matters of concern. Our goal must remain to be as effective and efficient in the use of resources as possible. This is particularly true given our commitment to need-blind admissions and our desire to moderate tuition increases in the future. Only through very careful use of our resources can we hope to support core programs while continuing to innovate so that Stanford can be even stronger in the 21st century than it has been in its remarkable past.